



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,703	04/30/2001	Kenro Hama	018775-826	9401

7590 06/29/2006

Platon N. Mandros  
BURNS, DOANE, SWECKER & MATHIS, L.L.P.  
P.O. Box 1404  
Alexandria, VA 22313-1404

EXAMINER

MENBERU, BENIYAM

ART UNIT PAPER NUMBER

2625

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/843,703	<b>Applicant(s)</b> HAMA ET AL.	
	<b>Examiner</b> Beniyam Menberu	<b>Art Unit</b> 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 5/9/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6, 8, 9, 11, 12, 14, 15, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 8, 9, 11, 12, 14, 15, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on <sup>4/6/06</sup> ~~4/6/06~~ KAW has been entered.

***Response to Arguments***

2. Applicant's arguments filed April 6, 2006 have been fully considered but they are not persuasive. With respect to the amended claims 1, 5, 8, 11, 14 and 17, Sonoda et al disclose an extraction controller which extracts pixels having a specific color and which detects an image having a predetermined pattern in the extracted pixels (column 8, lines 37-65; column 11, lines 10-24; Figure 5 shows the device wherein the pattern detector 17 detects pattern (column 14, lines 30-34) based on the extracted pixels from output 13c (column 10, lines 43-67; column 11, lines 1-9). The extracted pixels from output 13c are based on the detection of the colors of marks by reference 13a and 13b which make up the pattern of Figure 1. Thus the pattern is detected based on the extracted pixels from the binary processing unit 13 shown in Figure 5(column 13, lines

1-11, lines 23-30; column 14, lines 20-43). In column 11, lines 30-34, the pattern recognition is related to recognizing the marks using mark shape extraction unit 13a since the marks form the pattern (column 8, lines 36-40) that is to be detected. 13a is used for accuracy purpose in conjunction with 13b which detects the color of marks).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 5, 8, 11, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6219382 to Kikuchi et al in view of U.S. Patent No. 6115494 to Sonoda et al.

Regarding claims 1, 5, 8, 11, 14, and 17, Kikuchi et al discloses an image processor for detecting a predetermined pattern (column 12, lines 46-58; The caption reads on predetermined pattern) made of a specific color (column 12, lines 49-53) in input image data comprising:  
still image input device inputting still color (column 17, lines 51-56) image data (Kikuchi et al capture frames from video signal and analyzes pixels of digital picture (column 8,

Art Unit: 2625

lines 29-31) . A frame is equivalent to a still image since consecutive still images form a video signal (column 8, lines 29-60;column 26, lines 5-16));

a first decision controller which decides whether input color data of a target pixel exist in first ranges (column 12, lines 46-51);

a second decision controller which decides whether differences between color data of the target pixel and those of pixels adjacent thereto exist in second ranges different from the first ranges (column 12, lines 51-55);

a color decision controller which decides that the target pixel has a specified color when the first decision controller decides that the color data of the target pixel exist in the first ranges and the second decision controller decides that the differences exist in the second ranges (column 12, lines 54-58). However Kikuchi et al does not disclose an extraction controller which extracts pixels having the specific color decided by said color decision controller and detects an image having the predetermined pattern in the extracted pixels.

Sonoda et al disclose an extraction controller which extracts pixels having the specific color decided by said color decision controller and detects an image having the predetermined pattern in the extracted pixels (column 8, lines 37-65; column 11, lines 10-24).

Kikuchi et al and Sonoda et al are combinable because they are in the similar problem area of color detection.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the extraction controller of Sonoda et al with the system of Kikuchi et al to implement color based patter recognition.

The motivation to combine the reference is clear because for pattern detection it is necessary to implement the system of Sonoda et al in addition to the color detection system of Kikuchi et al and Sonoda et al provide for an accurate pattern detection system (column 8, lines 45-47, lines 60-62).

5. Claims 2, 3, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6219382 to Kikuchi et al in view of U.S. Patent No. 6115494 to Sonoda et al further in view of U.S. Patent No. 6631210 to Mutoh et al.

Regarding claims 2, 6, and 9, Kikuchi et al in view of Sonoda et al teaches all the limitations of claim 1, 5, and 8 respectively. However Kikuchi et al in view of Sonoda et al does not disclose an image processor, method, and program according to claim 1, wherein said second decision controller determines a maximum value among differences of color data between the target pixel and the adjacent pixels thereof and decides whether the maximum value exists in the second ranges.

Mutoh et al disclose an image processor, method, and program, wherein said second decision controller determines a maximum value among differences of color data between the target pixel and the adjacent pixels thereof and decides whether the maximum value exists in the second ranges (column 32, lines 24-32).

Kikuchi et al, Sonoda et al, and Mutoh et al are combinable because they are in the similar problem area of color detection.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the maximum value detection of Mutoh et al with the system of Kikuchi et al in view of Sonoda et al to implement accurate color detection system.

The motivation to combine the reference is clear because Mutoh et al teaches that this maximum value can be used in detection of deep color area (column 32, lines 38-46).

Regarding claim 3, Kikuchi et al in view of Sonoda et al teaches all the limitations of claim 1. Further Mutoh et al disclose an image processor, further comprising an edge detector which calculates differences in a plurality of color component data of the color data between the target pixel and the adjacent pixels thereof in a direction and decides a position of an edge based on the differences (column 37, lines 14-28; column 47, lines 42-50).

6. Claims 12, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6219382 to Kikuchi et al in view of U.S. Patent No. 6115494 to Sonoda et al further in view of U.S. Patent No. 6151410 to Kuwata et al.

Regarding claims 12, 15, 18, Kikuchi et al in view of Sonoda et al teach all the limitations of claims 11, 14, and 17 respectively. However Kikuchi et al does not disclose an image processor, method, and program wherein the color data includes a plurality of color component data and said second decision controller calculates differences between the color component data of the target pixel and decides whether the differences exist in the second ranges.

Kuwata et al disclose an image processor, method, and program wherein the color data includes a plurality of color component data and said second decision controller calculates differences between the color component data of the target pixel and decides whether the differences exist in the second ranges (Figure 12, reference S302-S308; column 22, lines 14-36).

Kikuchi et al, Sonoda et al, and Kuwata et al are combinable because they are in the similar problem area of color detection.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the color component difference calculation and comparison taught by Kuwata et al with the system of Kikuchi et al in view of Sonoda et al to implement an accurate color/pattern detection system.

The motivation to combine the reference is clear because Kuwata et al teaches that the method of calculating difference between color components can be used for thinning process (column 22, lines 21-23).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beniyam Menberu whose telephone number is (571) 272-7465. The examiner can normally be reached on 8:00AM-4:30PM.



Art Unit: 2625

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (571) 272-7471. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (571) 272-2600. The group receptionist number for TC 2600 is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

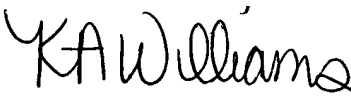
For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Patent Examiner**

Beniyam Menberu

**BM**

06/26/2006

  
**KIMBERLY WILLIAMS**  
**SUPERVISORY PATENT EXAMINER**